Amendments to the claims:

List of Claims:

1. (currently amended): A method for transmitting and receiving a pulse train signal, comprising:

generating a plurality of pulse trains, wherein each pulse train comprises at least one pulse having at least one predefined pulse characteristic; and

inserting a time delay between two pulse trains of said plurality of pulse trains, wherein the time delay results in at least one of:

an averaging of the number of cross-correlation coincidences between the pulses of the plurality of pulse trains and pulses of another plurality of pulse trains at a receiver; and

a received signal quality measurement satisfying a received signal quality criterion.

2. (Original): The method of claim 1, wherein the received signal quality criterion is at least one of:

a received signal quality measurement that meets a signal quality threshold ; and

a best received signal quality measurement of a plurality of signal quality measurements.

3. (Original): The method of claim 1, wherein the time delay is specified by at least one code element of at least one delay code.

4. (Original): The method of claim 1, wherein a predefined pulse characteristic comprises at least one of:

a time position,

a pulse amplitude;

a pulse width;

a pulse polarity; and

a pulse type.

5. (Original): The method of claim 4, wherein the time position is specified in accordance with a code element of a time-hopping code.

6. (Original): The method of claim 5, wherein a delay code comprises one or more code elements that specify time delays to be inserted between any one of:

two time-hopping code periods;

two delay code periods, and

two nested delay code periods.

7. (Original): The method of claim 1, further comprising:

measuring received signal quality for a plurality of pulse trains based on at least one inserted time delay;

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selecting a received signal quality measurement that satisfies a received signal quality criterion; and

delaying a pulse train by an amount of time equal to a sum of any inserted time delays that satisfy the received signal quality criterion.

8. (currently amended): The method of claim 7, wherein the received signal quality measurement is a function of at least one of a:

~~S~~signal strength,

~~B~~bit-error-rate,

~~S~~signal-to-noise ratio; and

~~S~~spectral property of the received signal.

9. (Original): The method of claim 7, wherein at least one time delay is inserted when a selected received signal quality measurement falls below a threshold.

10. (Original): The method of claim 7, wherein at least one time delay is periodically inserted between two adjacent pulse trains to satisfy the received signal quality criterion.

11. (Original): The method of claim 3, wherein the at least one delay code is generated using at least one of:

a designed code generation technique, and

a pseudorandom code generation technique.

12. (Original): The method of claim 11, wherein said designed code generation technique comprises at least one of:

a Welch-Costas code generation technique;

a Golomb-Costas code generation technique;

a Quadratic Congruential code generation technique;

a Linear Congruential code generation technique; and

a Hyperbolic Congruential code generation technique.

13. (Original): The method of claim 11, wherein said pseudorandom code generation technique comprises at least one of:

a linear congruential pseudorandom number generator technique.

an additive lagged-Fibonacci pseudorandom number generator technique;

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a linear feedback shift register pseudorandom number generator technique;

a lagged-Fibonacci shift register pseudorandom number generator technique;

a chaotic code pseudorandom number generator technique; and

an optimal Golomb ruler code pseudorandom number generator technique.

14. (Original): The method of claim 11, wherein at least one of a delay code length, a delay code period, and a sum of the time delays specified by code elements of a delay code of a plurality of delay codes is a constant value.

15. (Original): The method of claim 11, wherein a sum of the time delays specified by code elements of any delay code of a plurality of delay codes is not equal to a sum of delays specified by code elements of any other delay code of the plurality of delay codes.

16. (Original): The method of claim 11, wherein a sum of the time delays specified by code elements of a delay code of a plurality of delay codes is greater than a code period of a time hopping code.

17. (Original): The method of claim 3, wherein the at least one code element of the at least one delay code is at least one of:

a time delay value;

a symbol that maps to a time delay value; and

a symbol that maps to a memory location.

18. (currently amended): A method for transmitting and receiving a plurality of time-varied signals, comprising:

generating a plurality of time-varied signals, and

inserting a time delay between two time-varied signals of said plurality of time-varied signals, wherein the time delay results in at least one of:

an averaging of the number of cross-correlation coincidences between time-varied signals of said plurality of time-varied signals and time-varied signals of another plurality of time-varied signals at a receiver; and

a received signal quality measurement satisfying a received signal quality criterion.

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19. (Original): The method of claim 18, wherein time-varied signals consists of:

time-hopping signals;

frequency hopping signals;

time-division multiple access signals;

time-division code-division multiple access signals; and

orthogonal frequency division multiple access signals.

20. (Original): The method of claim 18, wherein the received signal quality criterion is at least one of:

a signal quality measurement that meets a signal quality threshold ; and

a best signal quality measurement of a plurality of signal quality measurements.

21. (Original): The method of claim 18, further comprising, wherein the time delay is specified by at least one code element of at least one delay code.

22. (Original): The method of claim 18, wherein a characteristic of the plurality of time-varied signals is varied in accordance with a code element of a time-varying code.

23. (Original): The method of claim 22, wherein said time-varying code specifies a characteristic of the plurality of time-varied signals within a time-varying code period.

24. (Original): The method of claim 23, wherein the time-varying code is a delay code having one or more code elements that specify time delays to be inserted between any one of:

two time-varying code periods;
two delay code periods, and
two nested delay code periods.

25. (Original): The method of claim 18, further comprising:

measuring received signal quality for a plurality of time-varied signals based on the time delays;

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selecting a received signal quality measurement that satisfies a received signal quality criterion; and

delaying a time-varied signal by an amount of time equal to the sum of the time delays that satisfies the received signal quality criterion.

26. (currently amended): The method of claim 25 wherein the received signal quality measurement is a function of at least one of a:

~~S~~signal strength,
~~B~~bit-error-rate,
~~S~~signal-to-noise ratio; and
~~S~~spectral property of the received signal.

27. (Original): The method of claim 25, wherein at least one time delay is inserted when a selected received signal quality measurement falls below a threshold.

28. (currently amended): The method of claim 25, wherein at least one time delay is periodically inserted between two adjacent ~~pulse trains~~ time-varied signals to satisfy the received signal quality criterion.

29. (Original): The method of claim 21, wherein a delay code is generated using at least one of:

a designed code generation technique, and
a pseudorandom code generation technique.

30. (Original): The method of claim 29, wherein said designed code generation technique comprises at least one of:

a Welch-Costas code generation technique;

a Golomb-Costas code generation technique;

a Quadratic Congruential code generation technique;

a Linear Congruential code generation technique; and

a Hyperbolic Congruential code generation technique.

31. (Original): The method of claim 29, wherein said pseudorandom code generation technique comprises at least one of:

a linear congruential pseudorandom number generator technique.

an additive lagged-Fibonacci pseudorandom number generator technique;

a linear feedback shift register pseudorandom number generator technique;

a lagged-Fibonacci shift register pseudorandom number generator technique;

a chaotic code pseudorandom number generator technique; and

an optimal Golomb ruler code pseudorandom number generator technique.

32. (Original): The method of claim 29, wherein at least one of a delay code length, a delay code period, and a sum of the time delays specified by the code elements of a delay code of a plurality of delay codes is a constant value.

33. (Original): The method of claim 29, wherein a sum of time delays specified by code elements of any delay code of a plurality of delay codes is not equal to a sum of delays specified by code elements of any other delay code of the plurality of delay codes.

34. (Original): The method of claim 29, wherein a sum of the time delays specified by code elements of a delay code of a plurality of delay codes is greater than a code period of a time-varying code.

35. (Original): The method of claim 21, wherein the at least one code element of the at least one delay code is at least one of:

a time delay value;

a symbol that maps to a time delay value; and.

a symbol that maps to a memory location.

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36. (Original): An impulse transmission system for communicating pulses having at least one predefined pulse characteristics, comprising:

an Ultra Wideband Transmitter; and

an Ultra Wideband Receiver;

wherein said Ultra Wideband Transmitter inserts at least one time delay specified by at least one code element of at least one delay code between two pulse trains of a plurality of pulse trains.

37. (Original): The impulse transmission system of claim 36, wherein a predefined pulse characteristic comprises at least one of:

a time position,

a pulse amplitude;

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a pulse width;

a pulse polarity; and

a pulse type.

38. (Original): The impulse transmission system of claim 37, wherein the time position is specified in accordance with a code element of a time-hopping code.

39. (Original): The impulse transmission system of claim 38, wherein a delay code comprises one or more code elements that specify time delays to be inserted between any one of:

two time-hopping code periods;

two delay code periods, and

two nested delay code periods.

40. (Original): The impulse transmission system of claim 36, wherein:

said Ultra Wideband Receiver measures received signal quality for a plurality of pulse trains based on the time delays and

selects a received signal quality measurement that satisfies a received signal quality criterion; and

said Ultra Wideband Transmitter delays a pulse train by an amount of time equal to a sum of time delays that satisfies the received signal quality criterion.

41. (currently amended): The impulse transmission system of claim 40, wherein a received signal quality measurement is a function of at least one of a:

~~S~~signal strength,

~~B~~bit-error-rate,

~~S~~signal-to-noise ratio; and

~~S~~spectral property of the received signal.

42. (Original): The impulse transmission system of claim 40, wherein at least one time delay is inserted when a selected received signal quality measurement falls below a threshold.

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43. (Original): The impulse transmission system of claim 40, wherein at least one time delay is periodically inserted between two adjacent pulse trains to satisfy the received signal quality criterion.

44. (Original): A multiple access system for transmitting and receiving a plurality of time-varied signals, comprising:

a Transmitter; and

a Receiver;

wherein said Transmitter generates a plurality of time-varied signals, and inserts a time delay specified by at least one code element of at least one delay code between two time-varied signals of said plurality of time-varied signals.

45. (Original): The multiple access system of claim 44, wherein time-varied signals consists of:

time-hopping signals;

frequency hopping signals;

time-division multiple access signals;

time-division code-division multiple access signals; ~~and~~

orthogonal frequency division multiple access signals.

46. (Original): The multiple access system of claim 44, wherein a characteristic of a plurality of time-varied signals is varied in accordance with a time-varying code.

47. (Original): The multiple access system of claim 46, wherein said time-varying code specifies a characteristic of the plurality of time-varied signals within a time-varying code period.

48. (Original): The multiple access system of claim 47, wherein a delay code comprises one or more code elements that specify time delays inserted between:

two time-varying code periods;

two delay code periods, and

two nested delay code periods.

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49. (Original): The multiple access system of claim 44, wherein:

said Receiver measures a received signal quality for a plurality of time-varied signals based on the time delays and

selects a received signal quality measurement that satisfies a received signal quality criterion; and

said Transmitter delays a time-varied signal by an amount of time equal to a sum of time delays that satisfies the received signal quality criterion.

50. (currently amended): The multiple access system of claim 49, wherein the received signal quality measurement is a function of at least one of a:

~~S~~signal strength,

~~B~~bit-error-rate,

~~S~~signal-to-noise ratio; and

~~S~~spectral property of the received signal.

51. (Original): The multiple access system of claim 49, wherein at least one time delay is inserted when a selected received signal quality measurement falls below a threshold.

52. (Original): The multiple access system of claim 49, wherein at least one time delay is periodically inserted between two adjacent pulse trains to satisfy the received signal quality criterion.